

IN THE CLAIMS:

Please amend Claims 1 and 49 as follows:

1. (Twice amended) A method of substantially reducing the number of tile or divot defects that are present in a silicon-on-insulator (SOI) substrate, said method comprising the steps of:

U/ (a) implanting oxygen ions into a surface of a Si-containing substrate, said implanted oxygen ions having a concentration sufficient to form a buried oxide region during a subsequent annealing step; and

(b) annealing said substrate containing said implanted oxygen ions in an ambient gas that comprises from about 0 to about 90% oxygen and from about 10 to about 100% of N₂ to form said buried oxide region which electrically isolates a superficial Si-containing layer from a bottom Si-containing layer, wherein said annealing reduces the number of tile or divot defects present at a top surface of said superficial Si-containing layer.

49. (Amended) A method of substantially reducing the number of tile or divot defects that are present in a silicon-on-insulator (SOI) substrate, said method comprising the steps of:

C2K cont (a) implanting oxygen ions into a surface of a Si-containing substrate, said implanted oxygen ions having a concentration sufficient to form a buried oxide region during a subsequent annealing step; and

(b) annealing said substrate containing said implanted oxygen ions in an ambient gas that comprises from about 0 to about 90% oxygen and from about 10 to about 100% of a high mobility gas selected from the group consisting of He, Kr, H₂ and mixtures thereof to